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Donald K.

Serial No.:

08/506,033

Filed:

24 July 199

Title:

DATA ENTRY

AND APPARATUS

Group Art Unit:

2609

Examiner:

Regina Liang

Applicant Document Number:

032-12

Form PTO-1449 Sheet 2 of 2

Japanese Patent Abstract No. JP 07-295,784, filed 25 April 1994, published 10 November 1995, abstract in English, submitted by Andou Haru et. al., Applicant Hitachi.

Japanese Patent Abstract No. JP 06-149,338, filed 16 November 1992, published 27 May 1994, abstract in English, submitted by Satake Toshifumi et. al.

Fitts, P.M., "The information capacity of the human motor system in controlling the amplitude of movement", Journal of Experimental Psychology, 1954, vol. 47, pp. 381-391.

Fitts, P.M and Peterson, J.R., "Information capacity of discrete motor responses", Journal of Experimental Psychology, 1964, vol. 67, pp. 103-112.

Pointer Systems '92/'93 Catalog, Pointer Systems, Inc., Burlington, VT: Pointer Systems, Inc., 1992.

PCT International Application No. PCT/US93/07233, published 17 February 1994, submitted by McClish et. al.

Redina Lians

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PTO/SB/ 42 (6-95)
Approved for use through 07/31/96. OMB 0651-0031
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Sheet Docket Humber (Optional) 37 CFR 1.501 032-13 08/506,032 INFORMATION DISCLOSURE CITATION Donald K. Forest **IN A PATENT** Incurs Date Group Art Unit (Use several sheets if necessary) 2609 **U. S. PATENT DOCUMENTS** EXAMINER DOCUMENT NUMBER DATE NAME CLASS FILING DATE IF APPROPRIATE SUBCLASS 0 19 Apr 1994 Bronson FOREIGN PATENT DOCUMENTS σ П **DOCUMENT NUMBER** DATE Tenstation COUNTRY CLASS SUBCLASS OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER DATE CONSIDERED

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Burden Hour Statement: This form is estimated to take 2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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Donald K. Forest

Serial No.:

08/506,032

Filed:

24 July 1995

Title:

DATA ENTRY METHOD

AND APPARATUS

Group Art Unit:

2609

Examiner:

Regina Liang

Applicant Document Number:

032-19

Form PTO/SB/42, Sheet 2 of 5

U.S. Patent Documents

- U.S. Patent No. 5,396,264 filed 3 January 1994, issued 7 March 1995 to Falcone et al.
- U.S. Patent No. 5,387,896 filed 6 August 1990, issued 7 February 1995 to Allapat et al.
- U.S. Patent No. 5,289,168 filed 23 January 1991, issued 22 February 1994 to Freeman.
- U.S. Patent No. 5,254,983 filed 5 February 1991, issued 19 October 1993 to Long et. al.
- U.S. Patent No. 5,233,662 filed 5 November 1991, issued 3 August 1993 to Christensen.
- U.S. Patent No. 5,220,361 filed 5 June 1991, issued 15 June, 1993 to Lehmer et. al.
- U.S. Patent No. 5,195,179 filed 21 May 1990, issued 16 March 1993 to Tokunaga.
- U.S. Patent No. 5,175,688 filed 27 November 1989, issued 29 December 1992 to Sasaki et. al.
- U.S. Patent No. 5,146,210 filed 26 July 1990, issued September 1992 to Heberle.
- U.S. Patent No. 5,027,109 filed 8 June 1989, issued 25 June 1991 to Donovan et. al.
- U.S. Patent No. 5,012,231 filed 20 December 1988, issued 30 April 1991 to Felsenstein.

Donald K. Forest

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DATA ENTRY METHOD

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Applicant Document Number:

032-19

Form PTO/SB/42, Sheet 3 of 5

U.S. Patent No. 4,987,411 filed 1 July 1988, issued 22 January 1991 to Ishigami.

U.S. Patent No. 4,979,094 filed 4 April 1988, issued 18 December 1990 to Gemmell et. al.

U.S. Patent No. 4,751,503 filed 24 December 1984, issued 14 June 1988 to Kermisch.

U.S. Patent No. 4,748,502 filed 18 August 1986, issued 31 May 1988 to Friedman et. al.

U.S. Patent No. 4,665,402 filed 6 May 1983, issued 12 May 1987 to Young.

U.S. Patent No. 4,648,028 filed 31 August 1984, issued 3 March 1987 to DeKlotz et. al.

U.S. Patent No. 4,638,312 filed 25 October 1985, issued 20 January 1987 to Quinn et. al.

U.S. Patent No. 4,559,598 filed 22 February 1983, issued 17 December 1985 to Goldwasser et. al.

U.S. Patent No. 4,386,346 filed 27 March 1981, issued 31 May 1983 to Levine.

U.S. Patent No. 4,354,185 filed 24 September 1980, issued 12 October 1982 to Worborschil.

U.S. Patent No. 4,354,184 filed 24 September 1980, issued 12 October 1982 to Worborschil.

U.S. Patent No. 4,345,313 filed 2 April 1980, issued 17 August 1982 to Knox.

Donald K. Forest

Serial No.:

08/506,032

Filed:

24 July 1995

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DATA ENTRY METHOD

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Applicant Document Number:

032-19

Form PTO/SB/42, Sheet 4 of 5

U.S. Patent No. 3,541,521 filed 11 December 1967, issued 17 November 1970 to Koster.

Foreign Patent Documents

Japanese Patent Abstract No. JP 54-19618, filed 15 July 1977, published 14 February 1979, abstract in English, submitted by Masahiro Iwamura, Applicant Hitachi.

Japanese Patent Abstract No. JP 61-121185, filed 19 November 1984, published 9 June 1986, abstract in English, submitted by Yamakawa Tadashi, Applicant Canon.

Other Documents

CTI Electronics Corporation, "Model M80XX Industrial Mouse" product flyer, Stratford, CT: CTI Electronics Corporation.

CTI Electronics Corporation, "Joysticks, Touchscreens, & Trackballs", product flyer, Stratford, CT: CTI Electronics Corporation.

Don Johnston Developmental Equipment, Inc., "CO:WRITER" product brochure, Wauconda, IL: Don Johnston Developmental Equipment, Inc.

LC Technologies, Inc. "The Eyegaze System" product brochure, Fairfax, VA: LC Technologies, Inc.

Donald K. Forest

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08/506,032

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R.

DATA ENTRY METHOD

AND APPARATUS

Group Art Unit:

2609

Examiner:

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Applicant Document Number:

032-19

Form PTO/SB/42, Sheet 5 of 5

Origin Instruments Corporation, "HeadMouse Manual", Grand Prairie, TX: Origin Instruments Corporation.

Prentke Romich Company, "Operator's Manual for Remote HeadMaster Mouse Emulator", Wooster, OH: Prentke Romich Company.

Quartet Technologies, Inc., "Switch Activated Environmental Control Units, Simplicity Series 7 and Series 7M" product flyer, Chelmsford, MA: Quartet Technology, Inc.

Quartet Technologies, Inc., "Voice and Switch Activated All-In-One Environmental Control Unit" product flyer, Chelmsford, MA: Quartet Technology, Inc.

Quartet Technologies, Inc., "Voice Activated Environmental Control Units, Simplicity Series 5,6, & 6 Plus!" product flyer, Chelmsford, MA: Quartet Technology, Inc.

Quartet Technologies, Inc., "Mouse/Keyboard Controller", product flyer, Chelmsford, MA: Quartet Technology, Inc.

Sentient Systems Technology, Inc., "DynaVox" product brochure, Pittsburgh, PA: Sentient Systems Technology, Inc.

Sentient Systems Technology, Inc., "DigiVox" product brochure, Pittsburgh, PA: Sentient Systems Technology, Inc.

ise through 07/31/96, OMB 0651-0031 Approved U.S. DEPARTMENT OF COMMERCE Patent and Trademark O

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U.S. Department of Commerce 1449A/PTO Patent and Trademark Office Rev. 10/95

LIST OF PRIOR ART CITED BY **APPLICANT**

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Etting Date	Donald K. Forest						
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Group Art Unit	2609						
Examiner Name	Regina Liang						
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032-20

Form PTO 1449

Other Documents

Examiner's Initials

Qu-

Downing, Andrew; Martin, Byron; Stern, Loon, "Methods for Measuring the Characteristics of Movements of Motor-Impaired Children", *Assistive Technology*, vol 2, pp.131-141, RESNA Press, Washington, DC, 1990.

Hamann, Gil, "Two Switchless Selection Techniques Using a Headpointing Device for Graphical User Interfaces" in *Proceedings of the 13th Annual RESNA Conference*, pp. 439-440, RESNA Press, Washington, DC, 1990.

Lin, Mei Li; Radwin, Robert G.; Vanderheiden, Gregg C., "Gain Effects on Performance Using a Head-Controlled Computer Input Device, *Ergonomics*, vol. 35, no. 2, pp.159-175, 1992.

Mayer-Johnson Company, "Non-Speech Communication Products 1992" catalog, Mayer-Johnson Company, Solana, Beach, CA.

Perricos, Costi; Jackson, Robin D., "A Head Gesture Recognition System for Computer Access" in *Proceedings of the RESNA '94 Annual Conference*, RESNA Press, Washington, DC, pp. 92-94, 1994.

Donald K. Forest

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Applicant Document Number:

032-20

Form PTO 1449

Prentke Romich Company, "1994-1995 Catalog", Prentke Romich Company, Wooster, OH.

Prentke Romich Company, "AlphaTalker TM" product brochure, Prentke Romich Company, Wooster, OH.

Prentke Romich Company, "DeltaTalker TM" product brochure, Prentke Romich Company, Wooster, OH.

Prentke Romich Company, "Liberator TM" reference manual, version 1.03, Prentke Romich Company, Wooster, OH, 1992.

Treviranus, Jutta, "Quartering, Halving, Gesturing: Computer Access Using Imprecise Pointing" in *Proceedings of the RESNA International Conference '92*, RESNA Press, Washington, DC, pp. 374-376, 1992.

Vanderheiden, Gregg C.; Kelso, D.P., "Comparative Analysis of Fixed-Vocabulary Communication Techniques", Trace Center, University of Wisconsin, Madison, WI, 1987.

3